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Sustainable development: follow-up to and implementation of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States

Five-year review of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States

Report of the Secretary-General

Summary

The General Assembly, by its resolution 62/191, decided to review the progress made in addressing the vulnerabilities of small island developing States through the implementation of the Mauritius Strategy for the Further Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States at its sixty-fifth session. Preparations for the five-year review have included national and regional review reports and three regional outcome statements. The objective of the present report is to provide, for the consideration of Member States, a global synthesis of the preparatory national and regional five-year reviews of the Mauritius Strategy.

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I. Introduction

1. The Programme of Action for the Sustainable Development of Small Island Developing States,[1] adopted in Barbados in 1994, highlighted the special challenges and constraints that have resulted in major setbacks for the socio-economic development of those States. The Barbados Programme of Action translated Agenda 21[2] into specific actions and measures to enable small island developing States to achieve sustainable development. In 2005, the Mauritius Strategy for the Further Implementation of the Programme of Action for Sustainable Development of Small Island Developing States[3] was adopted. The Strategy sets forth actions and strategies in 19 priority areas, including the original themes of the Barbados Programme of Action. In 2008, the General Assembly, by resolution 62/191, decided to review the five-year progress made in addressing the vulnerabilities of small island developing States through the implementation of the Mauritius Strategy at its sixty-fifth session. General Assembly resolutions 63/213 and 64/199 further clarified the expectations of Member States and the processes involved in the review. The high-level five-year review meeting will be convened in New York on 24 and 25 September 2010.

2. The Department of Economic and Social Affairs, through its Small Island Developing States Unit, the Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States, the regional commissions and other United Nations entities have provided support for preparations for the review process. A series of national assessment reports form the substantive basis of the review.[4] The regional review meetings held in Port Vila, Vanuatu, on 8 and 9 February 2010, in Malé, Maldives, on 9 and 10 March, and in St. George's, Grenada, on 16 and 18 March, resulted in regional outcome statements[5] and in-depth regional synthesis reports.[4] An interregional meeting of small island developing States held in New York on 8 May 2010 was followed by the observance of Small Island Developing States Day on 10 May 2010, during the eighteenth session of the Commission on Sustainable Development. Most recently, the Economic and Social Commission for Asia and the Pacific, in resolution 66/2 of 19 May 2010, invited member States to support the Port Vila outcome statement.

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[1] *Report of the Global Conference on the Sustainable Development of Small Island Developing States, Bridgetown, Barbados, 25 April-6 May 1994* (United Nations publication, Sales No. E.94.I.8 and corrigenda), chap. I, resolution 1, annex II.

[2] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

[3] *Report of the International Meeting to Review the Implementation of the Programme of Action for the Sustainable Development of Small Island Developing States, Port Louis, Mauritius, 10-14 January 2005* (United Nations publication, Sales No. E.05.II.A.4 and corrigendum), chap. I, resolution 1, annex II.

[4] Available from www.sidsnet.org/msi_5/index.shtml.

[5] CSD18/2010/BP8, CSD18/2010/BP9 and CSD18/2010/BP10, available from www.un.org/esa/dsd/resources/res_docusd_18_back.shtml.

3. The objective of the present report is to provide a global synthesis of the national and regional review reports for the consideration of the General Assembly.[6] It updates the report of the Secretary-General entitled "Review of the implementation of the Mauritius Strategy", submitted to the Commission on Sustainable Development at its eighteenth session (E/CN.17/2010/9). The report takes into account material that has since become available, in particular the final outcomes of the preparatory meetings, and national assessment reports, United Nations documents and newer data. Unless otherwise noted, the data used in the report are derived from official statistics compiled in the United Nations data portal, UNdata (http://data.un.org).

4. Small island developing States share many of the characteristics of other developing countries but they face unique challenges which are widely recognized. While the Committee for Development Policy has noted that there is no accepted definition of a small island developing State and, in practice, membership in that group is by self-selection,[7] for the purposes of the present report, the term "small island developing States" refers to the 38 United Nations Members States listed on the website of the Office of the High Representative of the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States.[8] In view of data availability, quality and aggregation issues, aggregate results are also reported for a subgroup of 29 small island developing States,[9] used by the United Nations Conference on Trade and Development (UNCTAD) for analytical purposes. Results are also reported for the subgroup of small island developing States that are included in the list of the least developed countries.

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[6] The report was prepared with input from the 22 participants in the Inter-agency Consultative Group on Small Island Developing States, namely, the Office of the High Representative of the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States; the Department of Economic and Social Affairs; the United Nations Conference on Trade and Development; the Office for the Coordination of Humanitarian Affairs; the International Strategy for Disaster Reduction Secretariat; the United Nations Development Programme; the United Nations Human Settlements Programme (UN-Habitat); the United Nations Environment Programme; the Economic Commission for Latin America and the Caribbean (Subregional Headquarters for the Caribbean, Port of Spain); the Economic and Social Commission for Asia and the Pacific (Pacific Operations Centre); the Food and Agriculture Organization of the United Nations; the United Nations Educational, Scientific and Cultural Organization; the World Health Organization; the United Nations Industrial Development Organization; the Intergovernmental Oceanographic Commission; the Secretariat of the Convention on Biological Diversity; the Caribbean Community; the Commonwealth; the Pacific Islands Forum Secretariat; the South Pacific Regional Environment Programme; the International Union for the Conservation of Nature; and the Sea Level Rise Foundation.

[7] *Official Records of the Economic and Social Council, 2010, Supplement No. 13* (E/2010/33), chap. V, para. 6.

[8] Antigua and Barbuda, Bahamas, Bahrain, Barbados, Belize, Cape Verde, Comoros, Cuba, Dominica, Dominican Republic, Fiji, Grenada, Guinea-Bissau, Guyana, Haiti, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Micronesia (Federated States of), Nauru, Palau, Papua New Guinea, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Singapore, Solomon Islands, Suriname, Timor-Leste, Tonga, Trinidad and Tobago, Tuvalu, Vanuatu (see www.un.org/special-rep/ohrlls/sid/list.htm).

[9] Antigua and Barbuda, Bahamas, Barbados, Cape Verde, Comoros, Dominica, Fiji, Grenada, Jamaica, Kiribati, Maldives, Marshall Islands, Mauritius, Micronesia (Federated States of), Nauru, Palau, Papua New Guinea, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Solomon Islands, Timor-Leste, Tonga, Trinidad and Tobago, Tuvalu, Vanuatu.

5. Section II below summarizes the overall progress of small island developing States in terms of macroeconomic developments, progress made towards the achievement of the Millennium Development Goals and vulnerability trends. Section III provides a more in-depth account of the progress made, the lessons learned and the continuing challenges in the implementation of the Mauritius Strategy in relation to each Strategy theme and means of implementation. Conclusions and issues for consideration are contained in section IV.

II. Overall development progress of small island developing States

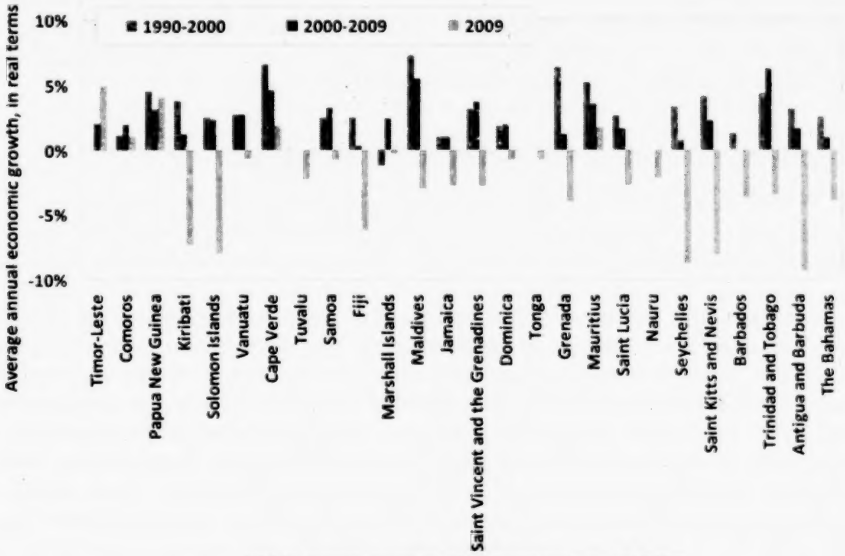
A. Macroeconomic developments

6. Real economic growth of the subgroup of 29 small island developing States declined from a country average of 3.2 per cent per year in the 1990s to 2.6 per cent in the 2000s, in contrast to the strong (and typically accelerating) economic growth in many other developing countries over the same period.[10] Small island developing States share very high levels of intrinsic vulnerabilities, especially to external shocks, despite having, on average, higher incomes than the least developed and the landlocked developing countries. As a result, economic growth has been highly volatile and characterized by marked differences among small island developing States. Figure I provides an overview of the economic growth record of selected small island developing States since 1990. Two thirds of them registered real economic growth below the world average of 2.8 per cent per year in the 2000s (in many cases during the boom years prior to the global financial crisis), which has meant a continued reliance on aid. One sixth of small island developing States recorded real growth of more than 4 per cent per year throughout the 1990s and 2000s, however, the goal of sustained high levels of economic growth over several decades has been elusive for most. In 2008, gross domestic product (GDP) per capita for the economies shown in figure I ranged from US$ 329 to US$ 18,280, at 2000 values.

[10] For example, real economic growth of the least developed countries increased from an average of 3.3 per cent per year in the 1990s to 6.3 per cent in the 2000s. Similarly, in sub-Saharan Africa, real economic growth increased from 2.2 to 4.9 per cent.

Figure I

Economic growth of selected small island developing States, 1990-2000, 2000-2009 and 2009



Source: International Monetary Fund and World Bank databases; Asian Development Bank, *Pacific Economic Monitor* (February 2010); Economic Commission for Latin America and the Caribbean, *Preliminary Overview of the Economies of the Caribbean: 2009-2010* (LC/CAR/L.252), February 2010. 2009 data are unofficial estimates for the Comoros, Papua New Guinea, Cape Verde, Grenada, Samoa, the Marshall Islands, Sao Tome and Principe, Trinidad and Tobago and Seychelles.

Abbreviations: GDP, gross domestic product; SIDS, small island developing States.

7. Despite expansionist strategies, the economies of most small island developing States contracted in real terms in 2009, on average by 2.4 per cent. One fifth of the economies contracted by more than 6 per cent in real terms. Positive growth was registered primarily in the few which were major resource exporters. Stimulus policies will increase the debt levels of the small island developing States that were already high before the crisis, especially in the Caribbean (e.g., the debt service ratio of Dominica as a percentage of export revenue was 85 per cent in 2007). In addition, the external balance of goods and services in small island developing States showed a widening deficit (which increased from an average of 12 per cent of GDP in 2004 to 18 per cent in 2008). The deficit was larger than 20 per cent of GDP in most small island developing States in 2008, compared to an average of 11 per cent in the least developed countries, 2.6 per cent in sub-Saharan Africa, and less than 1 per cent in countries members of the Organization for Economic Cooperation and Development (OECD).

B. Progress made towards the achievement of the Millennium Development Goals

8. *The Millennium Development Goals Report 2009*[11] and the series of regional and national progress reports indicate that small island developing States had made some progress by 2009 but warned that there was no room for complacency. Several small island developing States were not on track to achieve the Goals and some had even regressed. In particular, the impact of the multiple global crises continued to threaten progress and has further widened the growing socio-economic disparities.

9. Small island developing States have made good progress in the areas of gender, health and certain educational and environmental goals. However, they have made less progress than most other groupings, or even regressed in economic terms, especially in terms of poverty reduction and debt sustainability, a result of low growth (see E/CN.17/2010/9, table 1). There is a striking difference between small island developing States on the one hand and the least developed countries, landlocked developing countries and sub-Saharan Africa on the other; the latter have on average made greater progress in terms of poverty reduction, official development assistance (ODA) received and debt reduction. That outcome may be partially due to a lower baseline for the least developed countries and Africa, the commodities boom in the 2000s, and a changed international environment that has become increasingly challenging for small island developing States. While preferential treatment for the least developed countries and special programmes for Africa have been beneficial, no comparable support mechanisms exist for small island developing States.

10. These results mask large differences among and within countries.[12] However, a comprehensive global assessment of the progress made by small island developing States towards the achievement of the Millennium Development Goals remains constrained by data quality and availability. The national Millennium Development Goal progress reports, where they exist, provide the most comprehensive picture of the progress made by each State.

C. Special vulnerability of small island developing States to shocks

11. There are concerns that the recent development progress made by small island developing States might be jeopardized by the major ongoing shocks. By virtually any measure, small island developing States are among the world's hot spots in terms of sustainable development. Their vulnerability has increased due to climate change and was most recently demonstrated by the global financial crisis of 2007-2010, the food and fuel crises of 2007-2008 and the large-scale natural disasters, which occurred in 2009-2010. For example, the food crisis has had a severe impact on the poor in the small island developing States, most of which are net food importers.

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[11] United Nations publication, Sales No. E.09.I.12.

[12] See Economic and Social Commission for Asia and the Pacific, Asian Development Bank and United Nations Development Programme, *Achieving the Millennium Development Goals in an Era of Global Uncertainty: Asia-Pacific Regional Report 2009/10* (United Nations publication, Sales No. E.10.II.F.10).

12. The high levels of vulnerability of the natural, economic and social systems of small island developing States arise from the following intrinsic characteristics:[13]

(a) *Small size*. Small population size is in itself a limit. Higher income levels can increase overall economic size to only a limited extent, leaving few opportunities to create economies of scale. Small size typically leads to disproportionately expensive public administration and infrastructure. A small population typically has a narrow skills base, exacerbated by high rates of outmigration;

(b) *Remoteness*. Many small island developing States are geographically remote from major markets; in addition, low transport and communications volumes typically mean high freight and communications costs;

(c) *Vulnerability to external (demand and supply-side) shocks*. On average, small island developing States are relatively more exposed to natural disasters than most other developing countries. Due to the small size of their economies, they are highly dependent on trade but lack the factors that determine competitiveness. Similarly, international macroeconomic shocks tend to have higher relative impacts on their small economies. The combination of small size and remoteness leads to high production and trade costs, high levels of economic specialization and exposure to commodity price volatility;

(d) *Narrow resource base*. Small island developing States can rely on few natural resources to fuel their sustainable development. Energy, water, mineral and agricultural resources are relatively limited, and resource extraction tends quickly to meet the carrying capacities of the small islands;

(e) *Exposure to global environmental challenges*. Small island developing States face unique threats related to global environmental issues, including climate change (sea-level rise, destruction of coral reefs critical to food security and ecosystem adaptation), tourism, loss of biodiversity, waste pollution, scarcity of freshwater and acidification of the oceans. It should also be noted that the vulnerability of small island developing States follows the logic of critical thresholds and tipping points.

13. Since the early 1990s, most efforts to quantify vulnerability have focused on economic and environmental vulnerabilities rather than social ones, in line with the efforts made by the United Nations system to devise an economic vulnerability index for the identification of the least developed countries. In particular, the Committee for Development Policy developed a composite economic vulnerability index to measure the structural economic vulnerability of a country. This index looks at exposure and past shocks.[14] It is backward-looking and focuses on domestic shocks in the primary sectors. External shocks are captured through the export

[13] Similar characterizations of small island developing States have been proposed elsewhere. See, for example, Department of Economic and Social Affairs, *Development Challenges in Sub-Saharan Africa and Post-conflict Countries: Report of the Committee for Development Policy on the Seventh Session, 14-18 March 2005* (United Nations publication, Sales No. E.05.II.A.9), fig. 2.

[14] Exposure is proxied by population size, remoteness, merchandise export concentration and the share of agriculture, forestry and fisheries in GDP. Past shocks are proxied by homelessness due to natural disasters, instability of agricultural production, and instability of exports of goods and services.

channel.[15] The economic vulnerability does not aim to capture the wider range of vulnerabilities of small island developing States to external shocks, or take into account potentially different future shocks, such as those arising from climate change. Even so, in the most recent (2009) review by the Committee for Development Policy, economic vulnerability tended to be considerably higher or worse for low-income small island developing States than for other low-income countries and the least developed countries. In fact, 9 of the 20 countries with the highest or worse level of economic vulnerability in the 2009 review were small island developing States.[16]

14. A different approach was pioneered in 1995[17] and taken up by the Small Island Developing States Unit of the Department of Economic and Social Affairs in 1996.[18] Building on this work, the Economic and Social Commission for Asia and the Pacific (ESCAP), Asian Development Bank (ADB) and United Nations Development Programme (UNDP) devised an economic vulnerability index late in 2009, in order to assess the vulnerability of countries to financial and economic crises. The ESCAP economic crisis vulnerability index was defined as the normalized difference between an exposure index and a coping capacity index.[19] The index was collected for 119 countries, including 24 small island developing States throughout the world, of which 6 are included in the list of the least developed countries.

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[15] Committee for Development Policy, *Handbook on the Least Developed Country Category: Inclusion, Graduation and Special Support Measures* (United Nations publication, Sales No. E.07.II.A.9) and *Statistical Tables Update — 2009 Review*.

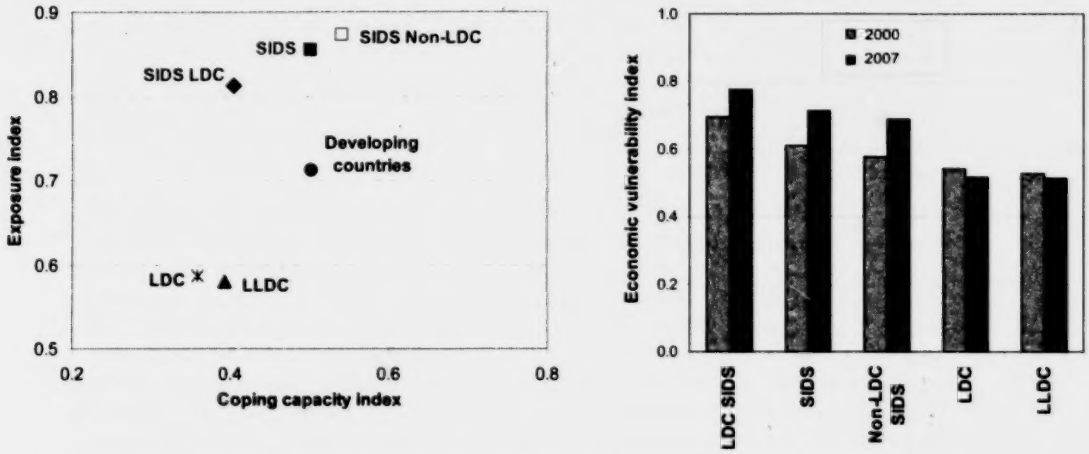
[16] The 2009 review was based on data for 2007 and the economic vulnerability index was calculated for 61 low-income countries, including 13 small island developing States.

[17] L. Briguglio, "Small island developing States and their economic vulnerabilities", *World Development*, vol. 23, No. 9 (1995), pp. 1615-1632, and L. Briguglio and others, "Economic vulnerability and resilience: concepts and measurements", in WIDER Research Paper No. 2008/55 (United Nations University/World Institute for Development Economics Research, May 2008).

[18] For an early overview, see the report of the Secretary-General on the development of a vulnerability index for small island developing States (A/53/65-E/1998/5).

[19] Five indicators are used to measure exposure to the economic crisis: (a) EXPY (index of export sophistication) per GDP per capita; (b) foreign direct investment (FDI) as a percentage of GDP; (c) ODA (as a percentage of GDP); (d) workers' remittances (as a percentage of GDP); and (e) inbound tourism (as a percentage of GDP). The capacity to mitigate the crisis is assessed using five different indicators: (a) ratio of external public debt stocks to GDP; (b) total reserves in months of imports; (c) ratio of gross savings to GDP; (d) government effectiveness, as reported by the World Bank's Worldwide Governance Indicators; and (e) Human Development Index.

Figure II
Economic vulnerability by region and country group, 2000-2007



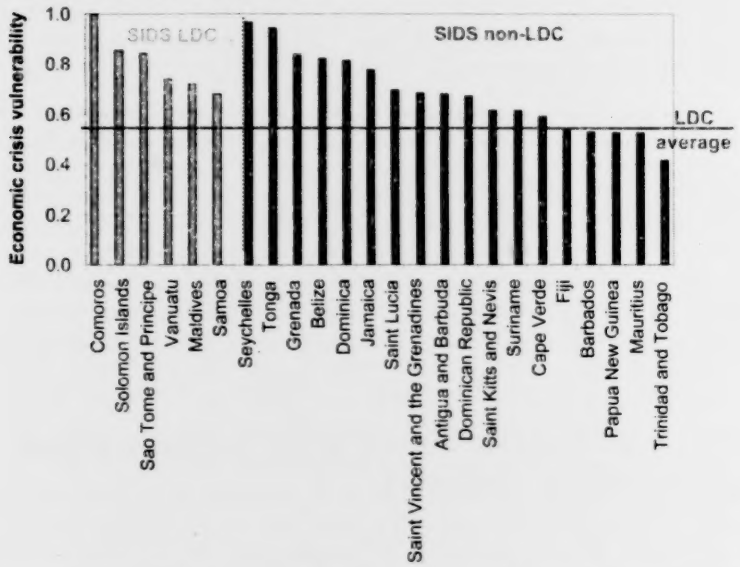
Source: ESCAP and Department of Economic and Social Affairs, based on ESCAP research and the methodologies in *Achieving the Millennium Development Goals in an Era of Global Uncertainty: Asia-Pacific Regional Report 2009/10* (United Nations publication, Sales No. E.10.II.F.10).

Abbreviations: LDC, least developed countries; LLDC, landlocked developing countries; SIDS, small island developing States.

15. Figure II shows that small island developing States have, on average, significantly higher economic vulnerability than other developing countries, due primarily to their higher exposure to external shocks. The vulnerability of higher-income small island developing States, which are not least developed countries is on average higher than that of the group of all least developed countries, which indicates that they cannot sufficiently compensate for their high intrinsic exposure with higher coping capacities, despite their higher incomes. Landlocked developing countries, which typically have low coping capacities, nevertheless exhibit considerably lower levels of vulnerability than small island developing States. The average economic vulnerability of the latter increased from 0.61 in 2000 to 0.71 in 2007, primarily because of a higher exposure (0.78 to 0.86), combined with a slightly lower coping capacity (0.53 to 0.50). There is evidence that the vulnerability gap between small island developing States and other countries has further widened since 2007 as the impacts of the global financial crisis further increase unsustainable debt levels in many small island developing States. In contrast, the average level of economic vulnerability of small island developing States had decreased slightly, from 0.65 in 1995 to 0.61 in 2000, primarily because of a higher coping capacity, despite increased exposure.

Figure III

Economic and Social Commission for Asia and the Pacific economic vulnerability index for 24 small island developing States compared with the average for all of the least developed countries



Source: ESCAP and Department of Economic and Social Affairs, based on ESCAP research and methodologies in *Achieving the Millennium Development Goals in an Era of Global Uncertainty: Asia-Pacific Regional Report 2009/10* (United Nations publication, Sales No. E.10.II.F.10).

Abbreviations: LDC, least developed country; SIDS, small island developing State.

16. Country differences in terms of economic vulnerability are considerable (see fig. III). The highest levels of vulnerability are primarily due to high exposure to shocks. For example, Tonga is highly exposed, since it depends heavily on flows of external capital: its remittances are 39 per cent of GDP, its ODA is 12 per cent of GDP and its foreign direct investment (FDI) inflows are 11 per cent of GDP. Vanuatu is in a similar position, although it relies less on tourism, which accounts for 15 per cent of GDP. Samoa is also quite exposed, since remittances account for 23 per cent of GDP and tourism for 18 per cent. Maldives is also very exposed through the tourism channel, which is 52 per cent of GDP. Most small island developing States, regardless of income, show a higher level of vulnerability than the average for all of the least developed countries. Some small island developing States with higher incomes are even more vulnerable than some which are identified as least developed countries. These facts call for formal recognition of the vulnerabilities of small island developing States and the need for adequate support systems in order to build resilience.

17. The very high level of vulnerability of small island developing States would be even more evident in the context of a comprehensive approach that takes into account economic, environmental and social vulnerabilities. According to the environmental vulnerability index developed by the South Pacific Applied Geoscience Commission (SOPAC), the United Nations Environment Programme (UNEP) and partners in

1999, the level of environmental vulnerability is higher or worse for 27 of the 33 small island developing States for which data are available than the average for all of the least developed countries and has increased or worsened since 2005 (see E/CN.17/2010/9, fig. I). The index is based on 50 indicators covering natural and anthropogenic risks, resilience and ecosystem integrity, and covers issues related to climate change, biodiversity, water, agriculture and fisheries, human health, desertification, and natural disasters.

18. In 2010, the Small Island Developing States Unit of the Department of Economic and Social Affairs revisited its earlier work on a conceptual framework for measuring vulnerabilities in all sustainable development dimensions, as called for in paragraphs 113 and 114 of the Barbados Programme of Action. It developed a framework for vulnerability-resilience self-assessment which covers the 12 themes of the Programme of Action and interlinkages. It can be used to measure progress in terms of economic, environmental and social vulnerability, as well as to monitor the implementation of the Barbados Programme of Action and the Mauritius Strategy. The framework has been peer-reviewed and is expected to be refined through pilot applications.

III. Implementation of the Mauritius Strategy: progress, lessons learned and continuing challenges

A. Overview

19. The Mauritius Strategy addresses vulnerabilities in terms of 19 themes and seven means of implementation (see table 1). Major constraints in the implementation of the Strategy have included declining levels of ODA in some small island developing States, lack of technical expertise, and financial, technical and institutional challenges.

Table 1
Mauritius Strategy: themes and means of implementation

Themes	
1. Climate change and sea-level rise	11. Science and technology
2. Natural and environmental disasters	12. Graduation from least developed country status
3. Management of wastes	13. Trade: globalization and trade liberalization
4. Coastal and marine resources	14. Sustainable capacity development and education for sustainable development
5. Freshwater resources	15. Sustainable production and consumption
6. Land resources	16. National and regional enabling environments
7. Energy resources	17. Health
8. Tourism resources	18. Knowledge management and information for decision-making
9. Biodiversity resources	19. Culture
10. Transportation and communications	

Means of implementation	
1. Access to and provision of financial resources	5. Monitoring and evaluation
2. Science and development and transfer of technology	6. Role of the United Nations in the further implementation of the Programme of Action
3. Capacity development	7. Role of regional institutions of small island developing States in monitoring and implementation
4. National and international governance	

20. An indicative measure for input in terms of resources for the implementation of the Strategy by the United Nations system, regional organizations and donors is ODA. Overall ODA flows to the subgroup of 29[9] increased to US$ 1.7 billion in 2007 and multilateral aid for small island developing States increased to US$ 665 million in 2007, most of which originated from the European Union. United Nations support was in the order of tens of millions of United States dollars in 2009. In terms of output, the progress made in the implementation of the Strategy clearly varies among regions and among countries.

21. Issues related to the Mauritius Strategy are typically well integrated into the national development plans and strategies of small island developing States, the majority of which cover the most salient thematic areas of the Strategy. According to a survey carried out by the Economic Commission for Latin America and the Caribbean (ECLAC) in early 2010, 63 per cent of Caribbean small island developing States indicated insufficient financial resources for the implementation of the Strategy, one half had only minimal expertise available, and 57 per cent indicated that only limited support had been received from the international community. The survey results are indicative of the continued need for financial and technical assistance from development partners for the implementation of the Strategy, a need voiced by small island developing States throughout the world.

22. Additional information on the progress made, the lessons learned and the continuing challenges in terms of implementation of the Mauritius Strategy is provided below.

B. Economy

Transport and communications

23. Transport and communications are lifelines within small island developing States and link them with one another and with the outside world. Distance and isolation have resulted in relatively high transport costs, and the quality and frequency of international shipping and air transport services are largely beyond their control.

24. While maritime transport is typically much cheaper than land transport owing to the large economies of scale that can be realized with modern container and bulk ships, transport volumes for most small island developing States are too low to enable them to benefit fully from modern shipping technology and practices. Low transport volumes, long distances and modal discontinuities (even for short overland

distances) typically add up to high freight and logistics costs and low frequency of services, in terms of both maritime and air transport. For example, in February 2010, the typical cost for shipping a standard 20-foot container from Nagoya, Japan, to Port Vila, Vanuatu, was US$ 4,700, compared with US$ 1,100 for shipping it to Brisbane, Australia, despite similar distances.[20] In a globalizing world, logistics costs and non-tariff barriers have become more important than custom tariffs and are key factors in the overall competitiveness of small island developing States. Typically, logistics performance is significantly worse in small island developing States than in other developing countries, as evidenced by the Logistics Performance Index of the World Bank in 2010: of the 11 small island developing States for which data are available, 9 are at the bottom of the list of the 50 worst performers in terms of logistics and 3 are among the 10 worst performers in the world.

25. On the other hand, several small island developing States have made significant progress in terms of increased transport volumes. For example, container port traffic roughly doubled in the period from 2001 to 2007 in small island developing States strategically located along major shipping routes (e.g., Dominican Republic, Jamaica, Mauritius and Trinidad and Tobago). In the Bahamas, it almost tripled during the same period. However, that success was in contrast to the stagnating container flows in small island developing States on the spokes of the emerging hubs-and-spokes system of container flows. During the period from 2000 to 2007, air freight in terms of tons per kilometre increased in 9 of the 23 small island developing States for which data were available, while in some of the poorer ones, it decreased by more than one half.

26. The hubs-and-spokes topology of the international air transport network, shipping network and Internet backbone network has benefited some of the emerging hubs, while further marginalizing the small island developing States on the spokes of the system. This problem has been exacerbated by the move towards infrastructure services liberalization and private sector participation, and has offset some of the otherwise beneficial impacts of those trends. Similarly, the viability of transport services for remote islands located within the territory of many small island developing States continues to be a major challenge, especially in archipelagos. Even geographically well-located small island developing States typically have not been able to translate their position into above-average bandwidth and below-average costs. In 2009, Internet Protocol transit service pricing for the capital cities of small island developing States was typically one to two orders of magnitude higher than in United States and European cities. Thus, despite the rapid absolute improvements in communications, small island developing States continue to lag in relative terms,[21] leading to a mismatch between hardware capacity and software applications. Encouraging signs in terms of external infrastructure conditions include the fact that some operators with existing C-band satellite capacity are interested in working with Pacific small island developing States, leasing capacity to them at low rates.

27. Notable regional progress made includes the adoption by the South Pacific Forum of the Forum Principles on Regional Transport Services in 2004, the establishment of the Pacific Aviation Safety Office in 2005, the adoption of the Pacific Islands Air Services Agreement, the efforts to create a regional airline in the

[20] www.japan-partner.com/car-shipping-cost.php.

[21] TeleGeography Research, 2010.

Caribbean, the development of the Pacific Regional Digital Strategy, the setting up of the pan-Pacific Rural Internet Connectivity System sites and the establishment of the South Pacific Information Network.

28. There has been only limited scope for public-private partnerships and other forms of private sector involvement owing to the small size of markets in small island developing States. This has constrained the ambitious plans of some small island developing States to provide universal service and wide area networks for the general public. Similarly, maintenance is significantly more expensive. Yet national telecommunications policies in many small island developing States have further opened markets to competition and incorporate ambitious plans for the roll-out of modern technologies, including satellite and fibre optics. The rapid growth in the popularity of mobile phones has been striking; Nauru even decided to phase out its fixed-line service. Island-wide radio and television coverage has been achieved in a significant number of small island developing States.

29. The safety and security of shipping, air transport and Internet communications has been high on the agenda in view of major shipping accidents, international piracy, and the standards promoted by the International Maritime Organization, the International Civil Aviation Organization, the International Telecommunication Union and the United Nations Centre for Trade Facilitation and Electronic Business.

30. Despite all of the efforts made, the provision of reliable and efficient air, land and maritime transport and communications services remains a challenge for many small island developing States. Regionalism and regionalization are important instruments for addressing these challenges. In particular, the sharing of resources in infrastructure, technology, institutional solutions, regulation and administration has proved a low-cost type of cooperation.

Trade

31. Owing to their small size and narrow resource base, the economies of small island developing States are among the most open to trade and are fairly vulnerable to trade shocks. Their share in total world trade has declined continuously since 1990. While the trend growth rate of commodity exporters was in the double digits at the height of the commodities price boom in 2007, the export growth of resource-poor small island developing States remained well below the world average. The global financial crisis had a serious impact on trade. For example, the export losses of Samoa and Solomon Islands in 2008 were estimated at 31 and 16 per cent, respectively, which was considerably higher than the export losses of China (minus 7 per cent).

32. Many of the economies of small island developing States are highly exposed to shocks as a result of their dependence on a few markets. For example, 68 per cent of the exports of countries members of the Caribbean Community (CARICOM) are destined for the European Union, United States of America and Canada. All small island developing States which have been exporting to preferential markets have seen a gradual erosion of market access preferences as a result of trade liberalization. Small island developing States members of the African, Caribbean and Pacific Group of States are faced with new challenges in the framework of economic partnership agreements with the European Union. One of these challenges is the loss of the customs revenue which used to fund vital education and health services.

33. Global trade flows and trade agreements mirror the hubs-and-spokes systems of transport and communications. Small island developing States are generally located on the spokes of those systems and influence only minimally the direction in which they evolve. The situation is exacerbated by the fact that, as a result of their limited national capacities, they cannot significantly influence trade negotiations. The multilateral trading system imposes binding obligations on its members, irrespective of their size or particular circumstances. While the World Trade Organization (WTO) has not established specific measures for small island developing States, it created a work programme on small economies in 2002, and in 2006 adopted recommendations on measures to assist small economies in meeting their obligations.

34. At present, 24 small island developing States are members of WTO, of which 15 are in the subgroup of 29.[9] Most recently, Cape Verde and Tonga completed their accession, in 2008 and 2007, respectively. Six small island developing States currently have observer status with WTO, with their accession formally in progress (dates of application to membership appear in brackets): the Bahamas (2001); the Comoros (2007); Samoa (1998); Sao Tome and Principe (2004); Seychelles (1995); and Vanuatu (1995). Comprehensive procedures and conditionality of membership have made accession a challenge for small island developing States. Many of them, regardless of their WTO membership status, continue to pursue regulatory reform. Discussions on smooth transitional measures for WTO members which will be graduating from the list of the least developed countries are under way; this is of particular concern for Maldives in view of the loss of special assistance entailed in its imminent graduation.

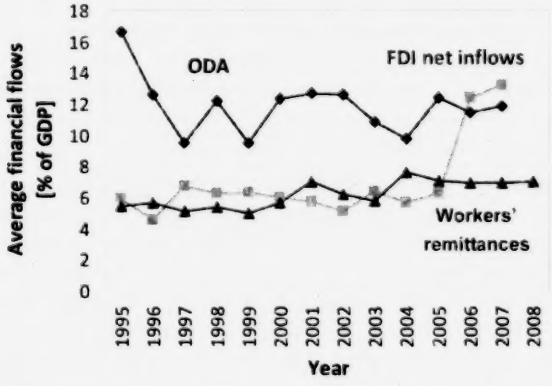
35. Insufficient national capacity in trade facilitation, including in terms of customs, data collection and organizational information sharing, has limited the benefits that small island developing States derive from trade. In view of their narrow economic base, their isolation from world markets and their increasing trade deficits (e.g., the trade deficit of Tuvalu was 78 per cent of GDP), small island developing States have increasingly questioned the potential benefits of trade agreements. Trade negotiations have focused on trade in services and labour mobility. Regional labour mobility arrangements, such as the Recognised Seasonal Employer Policy of New Zealand and the Pacific Seasonal Worker Pilot Scheme of Australia, have provided an opportunity for Pacific islanders; this opportunity has, however, remained limited owing to high transport costs. In October 2008, the Economic Partnership Agreement between the European Union and Caribbean members of the African, Caribbean and Pacific Group of States (most of which are small island developing States) established a framework for reciprocal free trade arrangements to replace the non-reciprocal market access preferences that prevailed under the Cotonou Agreement. Under the Economic Partnership Agreement, the European Union has committed itself to providing immediate duty and quota-free access for 98.5 per cent of imported goods and 94 per cent of imported services, in return for long-term market liberalization commitments by the Caribbean Forum of African, Caribbean and Pacific States. Seven Pacific islands (Cook Islands, Fiji, Niue, Samoa, Solomon Islands, Tuvalu and Vanuatu) have announced their readiness to trade under the terms and conditions of the Pacific Island Countries Trade Agreement. Negotiations have progressed slowly towards the Pacific Agreement on Closer Economic Relations (PACER Plus) between Australia and New Zealand and small island developing States of the Pacific.

Access to and provision of financial resources

36. Financial resources are among the most important tools for small island developing States in terms of managing their vulnerability. Unfortunately, access to financial resources is a special challenge for them because of the small size of their economies, which means that market information and project preparation costs are high. For that reason, the efforts made by Governments to promote FDI and public-private partnerships have met with limited success in many small island developing States. Furthermore, owing to the limitations of economies of scale, high transport costs and low trade capacities, small island developing States, despite having fairly open economies, typically have large trade deficits which are unsustainable unless financed through external capital flows, including ODA, FDI and workers' remittances.

37. Average ODA flows received by the subgroup of 29[9] declined in the late 1990s and have since settled at between 10 and 12 per cent of GDP (see fig. IV). Net inflows of FDI to the subgroup were stable, at about 12 per cent of GDP, until 2005, after which the percentage quickly doubled. Workers' remittances have increased rather slowly, reaching an average of 7 per cent of GDP in 2008. There is indicative evidence that remittances and FDI flows have declined drastically since the second half of 2008.

Figure IV
Average flows of official development assistance, net inflows of foreign direct investment and workers' remittances to the subgroup of 29 small island developing States, 1995-2008

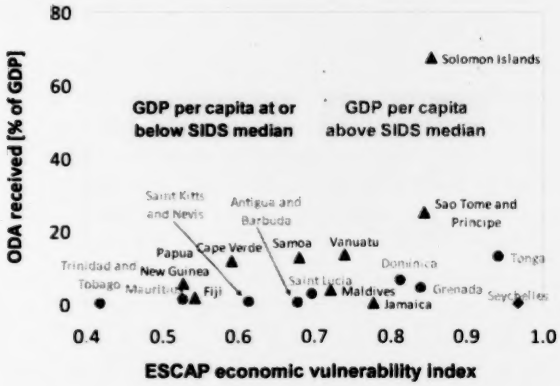


Abbreviations: FDI, foreign direct investment; GDP, gross domestic product; ODA, official development assistance.

38. Overall ODA flows to the subgroup of 29 small island developing States decreased from US$ 1.4 billion in 1995 to US$ 1.1 billion in 2000, rose again to US$ 1.4 billion in 2006 and reached a peak of US$ 1.7 billion in 2007. According to the OECD Development Assistance Committee, multilateral aid for small island developing States increased from US$ 124 million in 2002 to US$ 665 million in 2007, most of which originated from the European Union. Multilateral aid flows differed greatly among recipient small island developing States. Implementation of the Mauritius Strategy was financed primarily from domestic resources.

Figure V

Official development assistance received versus economic vulnerability index in selected small island developing States, 2007



Abbreviations: ESCAP, Economic and Social Commission for Asia and the Pacific; GDP, gross domestic product; ODA, official development assistance; SIDS, small island developing States.

39. The differences in the ODA flows received by small island developing States are enormous (see table 2). ODA is not directed systematically to the lowest-income small island developing States or to those with the highest levels of vulnerability (see fig. V). Almost all of the recent increase in ODA was received by Papua New Guinea, Saint Vincent and the Grenadines, Solomon Islands and Timor-Leste. In fact, in 12 members of the subgroup of 29,[9] ODA has declined since 2005. Emigration rates continue to be very high in many small island developing States (e.g., 35 per cent in Samoa, 34 per cent in Tonga and 17 per cent in Fiji). Consequently, workers' remittances have accounted for as much as 23 per cent of GDP in Samoa and 39 per cent in Tonga. However, they have been as low as 0.3 per cent in Maldives and 0.2 per cent in Papua New Guinea (table 2).

40. The relative size of net inflows of FDI has been largest in the Caribbean small island developing States. There are enormous differences in the amounts received by countries. Net inflows of FDI range from 0.5 per cent of GDP in Samoa to almost 34 per cent in Antigua and Barbuda (see table 2). In the Caribbean small island developing States, large inflows in the areas of tourism, minerals and communications services have helped to bridge the current account deficit, which has averaged about 14 per cent in the past five years. Large inflows in the Caribbean small island developing States, combined with public investment, have led to high investment levels — roughly 28 per cent in the 2000s — which have not, however, resulted in high growth rates.

Table 2
Official development assistance received and net inflows of foreign direct investment in 2007, and workers' remittances in 2008

	Financial flows (percentage) of GDP		
	Remittances	*FDI*	*ODA*
Antigua and Barbuda	2.1	33.9	0.4
Bahamas	..	10.9	0
Cape Verde	8.0	9.0	11.8
Comoros	2.3	0.2	..
Dominica	8.2	13.6	6.3
Fiji	5.0	8.0	1.7
Grenada	10.0	22.9	4.5
Jamaica	14.7	6.6	0.26
Kiribati	6.9	..	20.6
Maldives	0.2	1.4	3.8
Marshall Islands	..	..	1.2
Mauritius	2.5	5.0	41.9
Palau	..	..	13.4
Papua New Guinea	0.2	1.5	5.7
Samoa	25.8	0.5	7.8
Sao Tome and Principe	1.1	24.4	25.0
Seychelles	1.4	27.3	0.4
Solomon Islands	3.2	8.0	67.3
Saint Kitts and Nevis	6.9	27.9	0.6
Saint Lucia	3.1	27.3	2.6
Saint Vincent and the Grenadines	5.1	16.5	12.7
Timor-Leste	..	..	16.3
Tonga	37.7	10.8	13.1
Trinidad and Tobago	0.5	..	0.1
Vanuatu	1.2	6.7	13.5

Abbreviations: FDI, foreign direct investment; GDP, gross domestic product; ODA, official development assistance.

41. Increasing debt burdens have been causes for concern in a number of small island developing States, especially those in the Caribbean. In 2007, the average level of external debt stocks of the subgroup of 29[9] was about 80 per cent of GDP. External debt stocks were in the range of 100 to 220 per cent of GDP in one third of small island developing States for which data were available, and there is evidence that debt stocks have significantly worsened since 2008. Public debt levels are also very high, above 100 per cent of GDP in several cases. In contrast to the least developed countries and certain other groups, the small island developing States that are not listed among the least developed countries have not qualified for debt relief assistance and are increasingly considered ineligible for development aid. Under the Caribbean Single Market and Economy, the Caribbean small island developing States have a target of achieving a ratio of public debt to GDP of below 60 per cent by 2020. A regional development fund of US$ 250 million was created in 2008 to promote business development in disadvantaged Caribbean small island developing States. The lack of capacity and the small size of the projects have constrained access by small island developing States to international financing mechanisms, such as the Global Environment Facility and the clean development mechanism.

Tourism

42. Tourism has contributed significantly to the development of many small island developing States and will continue to be very important to their future growth. On average, tourism receipts accounted for 51 per cent of the total value of the exports of the subgroup of 29 small island developing States[9] in 2007, up from 42 per cent in 2000. This compares with less than 10 per cent in other developing countries. In 2007, the share of tourism receipts was larger than 50 per cent of exports in Antigua

and Barbuda, the Bahamas, Cape Verde, Dominica, Grenada, Maldives, Samoa, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines and Vanuatu (see table 3). In Maldives, the tourism sector accounts for about 52 per cent of GDP.

43. Dependence on tourism is a significant source of economic vulnerability for small island developing States, in particular in view of the high volatility of tourism revenue. The key reasons for such high volatility include the financial crisis, volatile oil prices, negative travel advisories, perceived health risks and dependence on a limited number of major source markets. For example, Europeans account for more than 70 per cent of the tourists who visit Maldives.

Table 3
International tourism receipts in selected small island developing States: share of total exports, 2007

	International tourism receipts (percentage of total exports of goods and services)
Cape Verde	74
Samoa	70
Maldives	68
Saint Lucia	66
Vanuatu	65
Bahamas	65
Antigua and Barbuda	58
Grenada	56
Saint Vincent and the Grenadines	51
Dominica	51
Saint Kitts and Nevis	49
Jamaica	43
Seychelles	42
Mauritius	37
Tonga	36
Sao Tome and Principe	31
Trinidad and Tobago	5

44. Sustainable tourism plans and policies of small island developing States have been aimed at increasing resilience, adding value and addressing the often inequitable distribution of the benefits of tourism. National tourism policies, strategies, plans or targets have recently been developed by, inter alia, Barbados, Kiribati, Mauritius, Maldives, the Marshall Islands, Palau, Sao Tome and Principe, Seychelles and Tuvalu. Small island developing States have continued to improve their tourism marketing and investment promotion. Fiji and Mauritius have developed national branding strategies and campaigns. Insufficient transport infrastructure, however, continues to be a major constraint to tourism development.

45. The promotion of ecotourism, cruise tourism, events tourism, diving tourism, pro-poor tourism, heritage tourism, medical tourism and spa tourism have been on the agenda of many small island developing States, but actual development in these

areas has generally been limited. The small island developing States of the Pacific developed a regional cruise strategy in 2008, and those in the Caribbean are exploring similar options. Ecotourism is being promoted in various forms, in Cuba, Fiji, Sao Tome and Principe, Seychelles and Tuvalu, among others. Heritage tourism is promoted in the Caribbean under the Youth PATH initiative of the United Nations Educational, Scientific and Cultural Organization (UNESCO).

46. National sustainable tourism plans and strategies are as important in small island developing States as in other countries. Overdevelopment may lead to a collapse in tourism. Ecotourism holds special promise for small island developing States despite its limited economic impact. The development of an accessible knowledge base on the contribution of the various kinds of tourism might be considered.

Energy

47. Most small island developing States are highly dependent on imported oil and other fossil fuels for transport and the generation of electricity. This is a particularly serious issue in view of the extensive use of diesel in power generation as a result of the small size and remoteness of many islands, which leaves small island developing States highly exposed to oil price volatility. Rapidly increasing oil prices have often translated immediately into social and political instability. In addition, the energy infrastructures in small island developing States have been highly vulnerable to natural disasters. Several of these States have made efforts to ensure that their power plants and grids are resistant to tropical storms.

48. Oil imports account for an average of 12 per cent of the imports of small island developing States. For example, the oil import bill of Fiji tripled in absolute terms during the period from 2000 to 2009 and accounted for one third of the import bill in 2009. The average oil import bill in Pacific small island developing States was about 18 per cent of GDP. The recent high volatility of and high world crude oil prices have had severe impacts on the balance of payments. An increase in the world crude oil price of US$ 10 per barrel results directly in a decrease of 1.5 per cent of GDP in Pacific small island developing States. In 2009, four small island developing States of the Pacific signed the Bulk Procurement of Petroleum Initiative, with a view to improving their market position. The remoteness of the Pacific means that retail gasoline prices there are among the highest in the developing world.[22] In order to buffer the social impacts of oil price volatility, the Governments of small island developing States have typically maintained a policy of setting the local retail prices of fuels.

49. Energy plans and policies have aimed to address the special vulnerabilities of small island developing States while ensuring a supply of secure, reliable, affordable and environmentally friendly energy and power for all islanders. While energy data availability is a serious issue for most of these States, it is evident from illustrative national data that only those with hydropower potential have high shares of commercial renewable energy. The energy mix of Sao Tome and Principe is typical, with diesel fuel for power generation accounting for 38 per cent, traditional firewood (which causes deforestation and is a serious health issue) for 33 per cent, hydroelectricity for 1 per cent and natural gas for less than 0.01 per cent. On the

[22] See www.gtz.de/fuelprices.

other hand, in Fiji, 33 per cent of electricity is generated by fossil fuels, 62 per cent by hydropower, 4 per cent by biomass fuels and 0.6 per cent by wind power and other modern renewable resources.

50. In the Caribbean, CARICOM, the Organisation of Eastern Caribbean States and the Caribbean Association of Electric Utilities drafted regional energy policies in 2007. In the Pacific, a meeting of Ministers of Energy to be held in 2010 will review the Pacific Islands Energy Policy. National energy plans, policies or action plans exist in at least 22 small island developing States; recent examples include the Bahamas (2008), Bahrain (2009-2014), Fiji (2006), Jamaica (2006-2020), Kiribati (2009), Maldives (2009-2013), Mauritius (2009-2025), Solomon Islands (2007) and Saint Vincent and the Grenadines (2009). Drafts are in development or under consideration in Barbados, Jamaica, Grenada, the Marshall Islands, the Federated States of Micronesia, Palau, Saint Lucia, Seychelles and Vanuatu. Integrated assessment tools have been increasingly used to take into account trade-offs between climate, land-use, energy and water strategies.[23]

51. Electrification in rural areas and especially in the outer, remote islands has remained limited owing to the very high capital costs involved, yet many small island developing States have made special efforts in that regard. For example, Fiji completed about 900 rural electrification community projects between 2005 and 2009, with the aim of providing universal access to electricity by 2016.

52. Most small island developing States have adopted strategies for the promotion of renewable energy that involve solar, wind, ocean thermal, wave, geothermal, biomass and hydroelectric power. For example, Maldives has announced its commitment to achieve a carbon-neutral energy sector by 2020 and to halve greenhouse gas emissions by 2015. Tuvalu has announced its aim of achieving 100 per cent renewable energy by 2020. Despite all the efforts, however, little progress has been made in replacing fossil fuels and moving towards low-carbon energy sources in small island developing States: the use of fossil fuels has continued to increase faster than the use of renewable energy in most of them. To be economically viable, alternatives to fossil-fuelled power generation in small island developing States continue to require subsidies, except for niche applications. The renewable energy potential of these States varies greatly. The scarcity of land resources limits solar panel development given the low energy density of solar radiation. Activities in small island developing States have focused mainly on wind and solar power, as well as hydroelectricity, where feasible. There have been positive experiences with thermal solar water heating (in Barbados, Mauritius and Palau). Hybrid solar-diesel power generation is being piloted in Maldives and Tuvalu. While geothermal energy is expected to have considerable potential in small island developing States, it is only in the early phases of exploration (in Saint Kitts and Nevis and Saint Lucia). Waste-to-energy systems may have great potential but have been underused.

53. The international community has supported many energy-efficiency projects in small island developing States. Typical government initiatives involve conversion from incandescent to fluorescent lamps (Grenada, Mauritius and Saint Lucia),

[23] A pilot application of a climate, land-use, energy and water strategy model for Mauritius was presented at a side event held during the seventeenth session of the Commission on Sustainable Development in 2009; further information is available from www.iaea.org/OurWork/ST/NE/Pess/csd-17.html.

metering (Grenada), transport fuel efficiency (Tuvalu), customs duty concessions (Saint Lucia) and overall programmes (Cuba, Maldives and Palau).

54. Comprehensive energy plans need to be consistent with the measures taken in other sectors, which requires an integrated assessment of cross-sectoral trade-offs to complement the analysis of energy systems. Modern renewable energy can help to reduce the vulnerability of small island developing States to oil price volatility, but its use requires significant support measures and subsidies, such as preferential feed-in tariffs, duty-free concessions, bilateral donor financing and international financing instruments. The renewable energy options with the greatest future potential for small island developing States may well be different from those for other developing countries. Geothermal energy, use of deep-sea water for air conditioning, waste-to-energy systems and solar thermal applications deserve more attention. Regional bulk petroleum procurement initiatives, such as those in the Pacific, deserve enhancement and implementation in other regions. Data collection and monitoring systems are rather underdeveloped, as is education on the assessment of energy technology choices.

Science and technology

55. Despite the relatively high levels of education in small island developing States, investment in science and technology has been very limited. Such underinvestment in technology innovation is directly associated with the decline of traditional sectors and has hampered efforts to diversify into new, high value added sectors.

56. Investment in research and development in the Caribbean small island developing States is fairly minimal and accounts for an average of 0.13 per cent of GDP, leading to extremely limited domestic development of technologies. According to a 2007 ECLAC report, specialization in science and technology subjects in the region's tertiary education institutions had declined and pay for engineers and scientists continued to be relatively low. Progress, where it occurred, relied on technology imports. The protection of intellectual property remains rather underdeveloped. While some countries, including Barbados, Jamaica and Trinidad and Tobago, have comprehensive legislative frameworks for copyright, patent provisions are insufficient or non-existent in most small island developing States.

57. The United Nations Educational, Scientific and Cultural Organization continues to promote science and technology in small island developing States. A number of its recent initiatives are noteworthy, including Cariscience which functions as the regional policy framework for science, technology and innovation in the Caribbean, and the Caribbean Council for Science and Technology. One noteworthy example of a small island developing State promoting science and technology is Mauritius. In view of the fact that national research and development accounted for a mere 0.36 per cent of GDP, Mauritius created a Ministry of Industry, Science and Research, introduced a new approach to the teaching of science, and provided support to the Mauritius Sugar Industry Research Institute and the Mauritius Oceanography Institute.

Graduation from the list of the least developed countries

58. In March 2010, there were 49 States on the list of the least developed countries, 11 of which were small island developing States: the Comoros, Guinea-Bissau, Haiti, Kiribati, Maldives, Samoa, Sao Tome and Principe, Solomon Islands,

Timor-Leste, Tuvalu and Vanuatu. The Committee for Development Policy reviews the list every three years. In its most recent review, in 2009, the Committee used three criteria for their identification: (a) a three-year average estimate of the gross national income (GNI) per capita (under US$ 905 for inclusion in the list and over US$ 1,086 for graduation); (b) the human assets index, which takes into account indicators in the areas of nutrition (percentage of the population undernourished), health (mortality rate for children aged five years and under), education (gross secondary school enrolment ratio) and adult literacy rate; and (c) the economic vulnerability index defined by the Committee, which takes into account indicators of population size, remoteness, the merchandise export concentration, the share of agriculture, forestry and fisheries in GDP, homelessness due to natural disasters, instability of agricultural production and instability of exports of goods and services. To be eligible for inclusion in the list, a country must satisfy all three criteria and its population must not exceed 75 million. To become eligible for graduation, a country must reach the threshold levels for graduation for at least two of the aforementioned three criteria, or its per capita GNI must sustainably exceed twice the relevant graduation threshold over at least two consecutive reviews of the list.

59. Timor-Leste was included in the list in 2003, and Cape Verde graduated in December 2007. During the triennial review of the list in 2009, the Committee for Development Policy recommended that Equatorial Guinea be graduated. Tuvalu and Vanuatu were considered eligible (as they had been in 2006) but were not recommended for graduation owing to doubts about the sustainability of their progress. Kiribati, which had met the criteria for graduation for the first time in 2006, was found to be no longer eligible. Samoa and Maldives are scheduled for graduation in December 2010 and January 2014, respectively. Thus, most recent graduations or recommendations for graduation involved small island developing States.

60. A high economic vulnerability index has been practically irrelevant for the graduation of a country when it scored above threshold for GNI and the human assets index. It should, however, be noted that, as part of the process, UNCTAD prepares a vulnerability profile which provides a more comprehensive view of economic vulnerabilities of the country. It has been argued that GNI at market prices is not a good proxy for comparing living standards between small island developing States and other developing countries; for small island developing States, with their small economies, most items are imported and show mark-up in terms of high transport and logistics costs typically leading to high price levels. There have also been calls for refining the Committee's economic vulnerability criterion in order to capture the full range of economic, environmental and social vulnerabilities of small island developing States and take into account expected changes in the nature of future shocks due to climate change and other factors.

C. Environment

Climate change

61. Small island developing States are especially vulnerable to climate change. Climate variability and change and the resulting sea-level rise and increased frequency and intensity of storms and droughts have for them adverse consequences.

The economic impacts include loss of agricultural land and infrastructure, and negative impacts on fisheries and tourism. Environmental impacts include loss of biodiversity, saltwater intrusion and the degradation of terrestrial and wetland habitats. Social impacts include the destruction of human settlements, the loss of livelihoods and negative impacts on health and access to freshwater. Sea-level rise is an existential threat to low-lying atoll islands. The Security Council discussed climate change and its security implications for the first time in 2009.[24] The very physical survival of several small island developing States is at stake, as are significant portions of land that lie only a few feet above the sea level.

62. Most small island developing States have ratified the Kyoto Protocol but only 38 per cent of those in the Caribbean agreed that accession had improved their access to low-carbon technologies, according to an ECLAC survey carried out early in 2010. According to the UNEP Risoe database, as of March 2010 only 8 of 38 small island developing States had validated a clean development mechanism project. Only 20 of 5,009 clean development mechanism projects had been validated in small island developing States and only 5 of these had been carried out in four of the lower-income ones (Cape Verde, Fiji, Jamaica and Papua New Guinea), accounting for only 0.14 per cent of the total number of certified emissions reduction validated until 2010.

63. Small island developing States, like other States, face serious problems in terms of reducing carbon dioxide (CO_2) emissions, even though actions to that end are high on the political agenda. During the period from 2000 to 2006, fossil fuel-related CO_2 emissions of the subgroup of 29 small island developing States[9] increased at an average annual rate of 4.3 per cent, from 1.9 to 2.5 million metric tons of CO_2 (excluding bunker fuels). In fact, CO_2 emissions have increased in all countries of the subgroup since 2000. Per capita, CO_2 emissions were higher than the world average in 6 of the 26 members of the subgroup for which data were available but in 2006 emissions ranged from as low as 0.16 metric tons per capita in Timor-Leste to as high as 25 metric tons per capita in Trinidad and Tobago. From 1990 to 2005, CO_2 intensity increased in 15 of the 29 small island developing States for which data were available.

64. Small island developing States have made efforts to carry out climate change adaptation projects, but progress thus far has typically focused on public awareness, research and policy development rather than on implementation. Under the GEF Least Developed Countries Fund, national adaptation programmes of action were developed for several small island developing States on the list of the least developed countries, including Kiribati, Samoa, Sao Tome and Principe, Tuvalu and Vanuatu. Multisectoral adaptation studies were also carried out in Mauritius and Saint Lucia, and projects in Fiji, Kiribati, Tonga and Vanuatu showcased cost-effective adaptation measures, supported by the South Pacific Regional Environment Programme and GTZ (German Agency for Technical Cooperation). The International Climate Change Adaptation Initiative and the CARICOM Climate Change Centre have provided assistance in capacity-building. Support from the international community to help implement the adaptation measures proposed in the national adaptation programmes of action remained limited, and small island developing States with higher incomes have found it particularly difficult to tap into international funds to co-finance adaptation measures.

[24] See S/PV.5663. See also General Assembly resolution 63/281.

65. The wide range of impacts associated with climate change pose a challenge in terms of policy and planning. Examples of policy changes include the integration of issues related to climate change and sea level in the national sustainable development strategy of Tuvalu and in the policy framework of Bahrain. Legislative changes were made in Kiribati, but the majority of small island developing States have not passed legislation specific to climate change. Research in support of policy and decision-making has been promoted in Mauritius. The lack of data and understanding of climate change issues continues to constrain progress, especially in terms of local adaptation measures in rural and outer islands. In this context, educational and awareness-raising activities were reported by Grenada, Saint Lucia and Tuvalu.

66. It is clear that small island developing States will need climate change policies which cover all economic sectors and guide responses to disasters and equity issues and which also address more extreme options, such as possible relocation from islands. Good practices in the area of adaptation need to be shared effectively, and a large funding gap for adaptation projects is apparent in small island developing States. Financial support from development partners will be required on a much larger scale. Against this background, special recognition of small island developing States as a group may be considered within the framework of the United Nations Framework Convention on Climate Change and in the mechanisms that might arise from the Copenhagen Accord.

Natural and environmental disasters

67. The small island developing States are vulnerable to the damaging impacts of cyclones, storm surges, landslides, droughts, floods, volcanic eruptions, earthquakes, tsunamis, and oil and chemical spills. Such disasters in many small island developing States have permanently wiped out the development achievements of years, even decades. Samoa, Saint Lucia, Grenada, Vanuatu, Tonga and Maldives led the list of countries with the highest economic losses on capital stock in relative terms due to natural disasters for the period from 1970 to 2006.[25] Recent examples of natural disasters causing major damage and loss of life include the tsunami in Samoa in 2009 and in Solomon Islands in 2010 and the earthquake in Haiti in 2010. Climate change has increased the frequency and intensity of cyclones, droughts and floods. The World Bank has estimated large potential damages to small island developing States in the absence of adaptation measures.[26]

68. Disaster risk reduction measures are a good investment in the future that can lead to economic savings and help to avert hardship. Some small island developing States have shifted to a more comprehensive approach that is an integral part of national development planning, in line with the recommendations of the International Strategy for Disaster Reduction. An increased number of small island developing States also participate in the four regional tsunami warning systems

[25] F. Baritto, 2008, "Disasters, vulnerability and resilience from a macroeconomic perspective: lessons from the empirical evidence", background paper prepared as input to *2009 Global Assessment Report on Disaster Risk Reduction* (United Nations, International Strategy for Disaster Reduction, Geneva, 2009).

[26] Sofia Bettencourt and others, "Not if but when: adapting to natural hazards in the Pacific Islands region", Policy Note (Washington, D.C., World Bank, 2006). Available from http://siteresources.worldbank.org/INTPACIFICISLANDS/Resources/Natural-Hazards-report.pdf.

coordinated by the International Oceanographic Commission of UNESCO.[27] However, the majority of resources continues to flow primarily to post-disaster, rather than preventative activities.

69. Exposure remains high, with settlement patterns typically concentrated in low-lying coastal areas and land-use planning insufficiently enforced. National emergency management plans, plans of action or offices have been recently created or updated, for example, in the Cook Islands, Saint Lucia, the Marshall Islands, Sao Tome and Principe, Tuvalu and Vanuatu. National action plans are being developed in the Federated States of Micronesia, Fiji, Palau, Samoa and Tonga. Local-level disaster management plans were reported by Grenada. Recent international efforts have included the Pacific Disaster Risk Management Partnership Network, the Pacific Humanitarian Team, the Disaster Risk Reduction and Disaster Management Framework for Action and the Pacific Disaster Net database. However, on-the-ground progress has been mostly slow owing to an insufficiency of funds.

70. Natural disasters in small island developing States typically spare no sectors and there is no safety net after they strike. Consequently, most small island developing States have relied on donations and foreign loans for reconstruction following natural disasters, which has led in some cases to unsustainable debt levels. The Caribbean Catastrophe Risk Insurance Facility was established in 2008. While the Facility can serve as a useful model for other regions, the level of the recent disbursement to Haiti (US$ 7 million early in 2010) illustrates the need for much greater financial resources. Similar mechanisms have been created at the national level, for example, the National Disaster Relief and Rehabilitation Fund of Fiji, established in 2004.

Sustainable production and consumption

71. Sustainable consumption and production is a broad concept which provides another perspective on the sustainability of development progress. The otherwise successful sustainable consumption and production projects and initiatives undertaken in small island developing States have rarely made a real difference at the national level, as evidenced by the eco-efficiency indicators applied to their economies. One often quoted measure is that of the ecological deficit/surplus of countries, which refers to the difference between a country's ecological footprint (a measure of how much productive land and water is required to produce all resources consumed and absorb all waste generated per year using prevailing technology) and its biocapacity (the total biological production capacity per year of a given area).[28] Ecological deficits and surpluses are, for example, reported by ESCAP in its quinquennial report, *State of the Environment in Asia and the Pacific*. While the measure is available only for a few small island developing States and related territories, the results, where available, are not encouraging. On the basis of the 2009 national footprint accounts, Cuba, the Dominican Republic, Fiji and Haiti reported significant ecological deficits, in contrast to the typical surpluses of larger developing countries with similar incomes. Guinea-Bissau, Papua New Guinea and Solomon Islands showed small surpluses. In most small island developing States, the balance has continually worsened in recent years, as biocapacity has continued

[27] See International Oceanographic Commission Assembly resolutions XXIII-12 to 14 and XXIV-14, and General Assembly resolution 62/91.

[28] See www.footprintnetwork.org.

to decrease and the ecological footprint has typically increased (or decreased only slightly, e.g., in Guinea-Bissau). A decreased footprint has been typically caused by economic decline rather than by successful implementation of eco-efficiency measures.

72. The Marrakech Process supports the elaboration of a 10-year framework of programmes on sustainable consumption and production, as called for by the Plan of Implementation of the World Summit on Sustainable Development. Examples of activities are, inter alia, the national cleaner production centres established in various countries with the support of the United Nations Industrial Development Organization (UNIDO) and UNDP, including in Cuba and Mauritius, the initiatives of CARICOM, the activities of the tourism task force, and the GEF projects in Fiji and Maldives.

73. Some Caribbean small island developing States have embraced a major policy shift towards green economies. Dominica has adopted environmentally sound, organic practices, Guyana a low-carbon development strategy, and Barbados the concept of a green economy. Examples of national sustainable consumption and production strategies or the inclusion of such elements into national development strategies were reported by Barbados, Cuba, Dominica and Jamaica. Only a few Pacific small island developing States have developed such national strategies, but 11 of them, along with ESCAP members, adopted the green growth approach in 2005.

74. While many good sustainable consumption and production projects and initiatives have been undertaken in small island developing States, overall progress has been much slower than expected. This is due in part to the continuing misalignment between overall policies and actual projects, in the light of a lack of capacity and resources and, for low-income groups, product affordability issues. The latter are especially important considerations in small island developing States since their overall unit costs are already considerably higher. The green growth approach may be a useful integrated approach for all small island developing States to reinforce both economic growth and sustainability.

Waste management

75. The small island developing States are vulnerable to waste management challenges in terms of both land and sea-based sources of pollution. Waste management systems in these countries, as in other developing countries, have come under pressure owing to increasing population, urbanization, changing consumption patterns, trade and seasonal tourism. The volume of domestic wastewater and solid waste has increased rapidly, as has the share of non-degradable and toxic materials. Municipal solid waste volumes are estimated to have doubled in the Pacific small island developing States in recent years. In contrast to developed countries, more than one half of the waste in small island developing States is organic. This underlines the importance of the use of composting, designer fertilizer and biogasification, as opposed to incineration. Good practices in pro-poor and sustainable solid waste management in smaller Asian cities have been piloted by ESCAP and provide useful examples for small island developing States.[29]

76. The small island developing States face particular problems in view of their low environmental and socio-economic carrying capacities. Current waste

[29] See www.unescap.org/esd/sudu/swm/.

management practices have resulted in the degradation of coral reefs, seagrass beds, mangroves and coastal zones, as well as in health warnings about disease and contaminated food supplies. Such developments threaten tourism, fisheries and even food security. Even if the more dramatic impacts can be averted, the economic costs of solid waste are already large in small island developing States.[30]

77. Yet significant progress can also be reported from many small island developing States in terms of improving waste management. For example, waste collection coverage in major cities in the Caribbean reached between 60 to 90 per cent of the population, with the exception of Haiti, where the rate was much lower. Some progress has been made with regard to sanitary landfills. Many small island developing States have already achieved the Millennium Development Goal target related to universal access to improved sanitation. According to the World Bank, all Caribbean small island developing States but one had achieved at least 80 per cent access to sanitation, with most having surpassed 90 per cent. However, high incidences of eutrophication due to the dumping of sewage into rivers and coastal waters are also reported. While the high costs of modern sewage treatment plants are a constraint, cheaper biological treatment methods that are especially suited to tropical climates do exist. Jamaica, Maldives, Mauritius, Saint Lucia, Seychelles and Saint Vincent and the Grenadines have developed national solid waste management policies, acts or programmes. Seychelles has made advances in systematic composting and waste recycling. Waste recycling on a commercial scale exists in Mauritius, where plastics are recycled and bagasse is being used as a source of energy.

78. The special characteristics of small island developing States also limit the transferability of good practices from other developing countries. The economic viability of recycling efforts is constrained by the relatively small quantities of waste and the high energy and transport costs. Where land is scarce, incineration is often chosen, an option which has turned out to be unsustainable in terms of pollution and high costs.

79. Small island developing States are increasingly vulnerable to the transboundary movement of hazardous wastes and chemicals originating from land-based and shipborne sources. In particular, the large amounts of plastics in the oceans and ship waste are matters of concern and have had destructive impacts on the marine ecosystems of small island developing States. The Basel Convention is aimed at addressing the threats posed by the transboundary movement of hazardous wastes, including their disposal in these States.

Coastal and marine resources

80. The majority of the inhabitants of small island developing States live in or near coastal areas (e.g., 80 per cent of Pacific islanders) and many rely on coral reefs for their livelihood. Nutrition, welfare, culture, recreation, government revenue and employment in small island developing States depend to varying degrees on fish stocks. For example, tuna fisheries constitute by far the most valuable fishing activity in the Pacific region, contributing more than 10 per cent of GDP and over 50 per cent of exports in some Pacific small island developing States.

[30] South Pacific Regional Environment Programme, 2005.

81. Small island developing States have established national vessel monitoring systems (Nauru), introduced national plans and policies (Mauritius, Seychelles) and are developing aquaculture to promote food security (Palau). In 2008, the Western and Central Pacific Fisheries Commission adopted measures which included cuts in long-line fishing and periods of closure to fishing. Continuing challenges include developing sustainable coastal fisheries, implementing rights-based fisheries management, strengthening national tuna industries, improving surveillance, strengthening compliance with sanitary measures and addressing the proliferation of illegal fishing.

82. The maritime boundary definition is still pending for many small island developing States. Thirteen[31] have successfully lodged submissions to the Commission on the Limits of the Continental Shelf for extensions of their territory. Seabed mineral exploration continues in the exclusive economic zones of Papua New Guinea and Tonga, which highlights the importance of improved legal frameworks for seabed mining.

83. Monitoring, data collection and analysis of information on coastal and marine resource management is an ongoing need articulated by small island developing States, and is supported by the Food and Agriculture Organization of the United Nations (FAO). The Pacific Islands Ocean Observing System and the Caribbean Marine Protected Area Management Network and Forum consolidated and standardized information on the Pacific Ocean and marine protected areas, respectively. Coastal zone management plans have been developed by some small island developing States (Maldives, Saint Lucia).

84. More progress was made in the Pacific in terms of new marine protected areas than in the other regions. In 2008, Kiribati created the world's largest protected marine reserve, the Phoenix Islands Protected Area, encompassing one of the planet's last intact coral archipelagos. Sustained funding is now required to support surveillance. The South Pacific experienced a remarkable proliferation of marine managed areas in the 2000s, implemented by over 500 communities in 15 independent countries. Notable international conservation initiatives include the Coral Triangle Initiative, the Micronesia Challenge, the Caribbean Challenge and the Western Indian Ocean Challenge.

Freshwater resources

85. Owing to their small size and their geological, topographical and climatic conditions, small island developing States face major constraints in terms of the quantity and quality of freshwater resources. This is particularly true of low-lying coral islands, where groundwater supplies are limited and protected only by a thin, permeable soil.

86. In the Pacific, during the period from 2006 to 2009, there were a number of significant initiatives in the region's water and sanitation sector, largely guided by the Pacific Plan, into which water, sanitation and hygiene challenges were incorporated in 2006. The Pacific Hydrological Cycle Observing System was established in 2007 to build the capacity and infrastructure of Pacific small island developing States.

[31] Barbados, Cook Islands, Cuba, Fiji, Mauritius, Micronesia (Federated States of), Palau, Papua New Guinea, Seychelles, Solomon Islands, Suriname, Tonga, Trinidad and Tobago.

87. Pacific islands which are primarily dependent on surface water (Cook Islands, Fiji, Micronesia (Federated States of), Palau, Papua New Guinea, Samoa, Solomon Islands, Vanuatu) made progress in the installation of rain gauges and water resources assessments of major rivers. Those dependent on groundwater (Kiribati, Marshall Islands, Nauru, Niue, Tonga, Tuvalu) focused on monitoring and data quality, and those primarily harvesting rainwater (Tuvalu, Nauru) focused on optimizing its capture and storage.

88. Most Caribbean small island developing States have relatively high levels of access to drinking water and sanitation, with the notable exceptions of Haiti and Belize. Since 2006, there has been increased awareness of the need for water conservation in view of the drought conditions that are expected to prevail in the southern Caribbean due to climate change.

89. Small island developing States in the AIMS (Atlantic, Indian Ocean, Mediterranean and South China Seas) group face limitations on the quality and quantity of freshwater owing to variable rainfall, high run-off and inadequate storage facilities. In Seychelles, 98 per cent of rainfall is lost through run-off and evapotranspiration. In Cape Verde and Sao Tome and Principe, irregular rainfall causes periodic drought and famine. Chemical fertilizers, higher salt concentrations and human waste have contributed to groundwater pollution. Desalination plants have been built in Maldives and Seychelles.

90. Increased funds are needed for freshwater activities in most small island developing States. Public awareness campaigns, education and community participation in watershed management may complement policy initiatives and technological improvements.

Land resources

91. The land area available for economic activities is rather limited in most small island developing States due to their small size and land tenure systems. Land use among them is rather diverse, reflecting different geographical and settlement patterns. Some capital islands are entirely covered by built-up areas, with no sizeable green spaces, whereas others consist of large land areas with low population density. The share of forest area in total land area has averaged a stable 38 per cent since 1995. However, it varies widely among small island developing States, from as low as 3 per cent in Kiribati, the Comoros and Maldives to as high as 88 and 91 per cent in Palau and the Federated States of Micronesia, respectively. Since 2000, deforestation has been registered in 5 of the 27 members of the subgroup of small island developing States[9] for which data are available. Agriculture/fisheries remains the single largest sector in a number of Pacific small island developing States, where it accounts for more than 85 per cent of foreign exchange, contributing substantially to total employment (40 to 80 per cent) and representing 20 to 40 per cent of GDP and more than 50 per cent of exports. Artisanal and commercial mining is important in a few small island developing States.

92. Population pressure on a limited resource base, deforestation, land degradation, erosion and unsustainable agricultural practices have increased the vulnerabilities of small island developing States and led to intense competition among land-use options. Land-use planning efforts have been hampered by problems with enforcement and narrow legal systems. Soil erosion and the degradation of already scarce land areas are typical consequences. However,

progress has been made in terms of land conservation. The share of terrestrial areas protected to total surface area in the subgroup of 29[9] increased from 1 to 1.3 per cent during the period from 1995 to 2008, but limited surveillance and management capacity has been a continued source of concern in many small island developing States. Progress in sustainable land management is constrained mainly by capacity issues, a lack of funds and insufficient data.

Biodiversity

93. There is a wealth of studies and literature establishing the significant global value of species diversity and endemism in small island developing States, and highlighting the fact that their small size and isolation and the fragility of their ecosystems increases the vulnerability of their biodiversity resources.[32] Small island developing States are also home to a large number of indigenous groups, which have retained robust cultures, more than 1,000 distinct languages and strong traditional attachments to the land and the sea. There is high social, cultural and economic dependence on the goods and services that biodiversity provides, such as food, water, shelter and medicine. While much progress has been made in the past decade in the management of biodiversity resources, there is a continued loss of biodiversity owing to the introduction of invasive and alien species, deforestation, overexploitation, pollution, natural disasters, coral reef deterioration and habitat degradation and loss. These threats are exacerbated by the impacts of climate change.

94. Among the priority areas for action to ensure a sustainable supply of the ecosystem services and goods that biodiversity provides are: efforts to tackle invasive species; building the resilience of fragile ecosystems with respect to climate change; improving information systems; assessing the social and economic value of biodiversity; and supporting the inclusion of biodiversity in national sustainable development strategy processes.

D. Social systems and institutions

95. Resilient social systems and institutions are important in addressing the vulnerabilities of small island developing States. Yet in many of these States, public expenditures on and percentage of population benefiting from social protection are among the lowest in the world. Per capita expenditure on social protection in Pacific small island developing States averaged US$ 30, compared with more than US$ 100 in South Asia and US$ 600 in East Asia.[33]

Health

96. The public health issues in small island developing States are similar to those in other developing countries, but they face special challenges owing to their small size and remoteness. Reliance on imported food items of limited nutritional value

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[32] Rashid M. Hassan, Robert Scholes and Neville Ash, eds., *Ecosystems and Human Well-being*, vol. I, *Current State and Trends: Findings of the Condition and Trends Working Group* (Millennium Ecosystem Assessment, 2005).

[33] Economic and Social Commission for Asia and the Pacific, Asian Development Bank and United Nations Development Programme, *Achieving the Millennium Development Goals in an Era of Global Uncertainty*.

has contributed to vitamin and mineral deficiencies. A growing concern in small island developing States is the increasing prevalence of non-communicable diseases, in particular diabetes, obesity, hypertension, cardiovascular diseases and cancer. Nauru, Tonga and Mauritius are among the top 10 countries with the greatest prevalence of diabetes in the world. The prevalence of obesity in the Caribbean is among the highest in the world, and mortality from diabetes is approximately double that of North America.

97. The threat of HIV varies greatly among small island developing States. While the Caribbean region has the second highest HIV prevalence rate in the world (with nine countries above 1 per cent), the small island developing States of the Pacific and those in the AIMS group have comparatively low HIV prevalence rates (with the exception of Papua New Guinea, where it is 2.5 per cent, and Guinea-Bissau and Mauritius, where it is over 1 per cent).

98. Vector-borne diseases, including malaria, chikungunya and dengue fever, continue to be serious public health issues and give rise to significant morbidity and severe economic losses, including for tourism. Cholera is a cyclical epidemic in areas in which sanitation and waste-water treatment facilities are inadequate. In the small island developing States of the Pacific, the annual incidence of diarrhoeal diseases nearly matches the number of inhabitants (6.7 million acute cases), and diarrhoeal diseases are responsible for the deaths of 2,800 persons each year, most of them young children. Natural disasters create new breeding grounds for communicable diseases. Small island developing States of the Pacific have developed cross-border and regional approaches, including early warning and notification systems for disease outbreaks, regional management of medicine supplies and specialist medical services. The Pacific remains polio free and nearly all countries have embarked on the elimination of measles, with nearly 95 per cent immunization coverage rates. Several small island developing States actively participated in the worldwide campaign to roll back malaria.

99. In most small island developing States, infant mortality rates and life expectancy have improved over the past decades, and most women have access to proper prenatal, intra-natal and post-natal care. However, improvements in some indicators stalled in the 2000s, and concerns remain in some small island developing States. For example, the under-five mortality rate in Papua New Guinea has decreased only slowly and remains at 93 per 1,000 live births.

100. A persistent challenge for small island developing States is the limited capacity and skills and chronic shortage of health-care workers, which is partly due to emigration. Examples of capacity-building initiatives include the Pacific Open Learning Health Net, the provision by Cuba of medical education and health care in Caribbean small island developing States, and the three faculties of medicine and dentistry in Mauritius.

101. A unique window of opportunity has been noted for the establishment of sustainable welfare systems in the coming years, with the demand from the younger generation declining and the need for support for older persons still relatively limited. National health expenditures continued to be relatively low in most small island developing States. Several small island developing States of the Pacific have established health promotion foundations which are funded by taxes on alcohol and tobacco and from other sources.

Culture

102. The preservation and promotion of cultural heritage is of particular importance to small island developing States owing to the contribution of cultural industries and initiatives to sustainable development, in terms of economic diversification in general and the tourism sector in particular, but also because of the increasing vulnerability of their cultural identities.

103. Several small island developing States have undertaken initiatives to protect traditional knowledge, skills and cultural expressions. For example, Tuvalu has included culture in its national sustainable development strategy, and Dominica, Jamaica, Papua New Guinea and Saint Lucia have finalized national cultural policies. Examples of institutional actions include the establishment of a government department of culture in Nauru with the aim of developing a national dictionary, and the creation of a national heritage fund in Mauritius. National cultural foundations based on the Barbadian model have been established in Saint Lucia and Grenada, and a film office has been set up in Dominica.

104. Intellectual property management has been addressed through the Caribbean Copyright Link, an alliance of the author societies of Barbados, Jamaica, Saint Lucia and Trinidad and Tobago, with the principal aim of supporting the collection of royalties from international markets and building an Internet Protocol management capacity. Mauritius has also strengthened its anti-piracy unit.

105. Regional organizations in the Pacific and the Caribbean have played a key role in advancing the cultural agenda. The secretariat of the Pacific Community works to raise the profile of culture and to collect cultural statistics. Since 2008, an action plan for the Pacific Regional Framework for the Protection of Traditional Knowledge and Expressions of Culture has provided legal protection to traditional knowledge and cultural expressions. The secretariat and the Council of Pacific Arts are developing a regional cultural strategy, and festivals have been used to showcase cultural products and contribute to greater awareness in that regard.

106. Almost all small island developing States had ratified the Convention concerning the Protection of the World Cultural and Natural Heritage as of 2009, and five new sites in small island developing States have been added to the World Heritage list in the past five years. As of May 2010, 15 small island developing States had ratified the Convention for the Safeguarding of the Intangible Cultural Heritage, and 11 had ratified the Convention on the Protection and Promotion of the Diversity of Cultural Expressions.

107. Barbados, Jamaica and Mauritius have established national funds to provide grant support to the arts and culture, while the Bahamas relies on assistance from the private sector. Palau has proposed a law that would set aside 1 per cent of the capital costs of public sector construction projects for the promotion of the Palauan arts. The efforts made in the Caribbean region to establish a regional fund for culture have not yet resulted in a sustainable pool of resources.

Capacity development and education

108. Capacity development and education face the combined challenges of brain drain and small population size. Progress made towards the achievement of the Millennium Development Goal target of universal primary education has been mixed in the small island developing States. General literacy is high in those in the

Caribbean, except for Belize and Haiti, but remains a challenge in the Pacific and for those in the AIMS group, with the Comoros, Guinea-Bissau, Papua New Guinea, Timor-Leste and Vanuatu being of greatest concern. Literacy rates among young people aged 15 to 24 years range mostly between 64 and 100 per cent for the subgroup of 29 small island developing States. While education is compulsory for children aged 5 to 16 years in most small island developing States, some have lower requirements. Primary school enrolment and completion rates have improved in most, but completion rates have declined in Fiji, Cape Verde, Papua New Guinea, Suriname and Vanuatu. In terms of gender parity at the primary and secondary school levels, the high dropout rate among young boys was of concern in most small island developing States, whereas girls have increasingly achieved better results and stayed in school longer. Tertiary education enrolment and programme completion rates are also higher for women than men in most small island developing States.

109. Some small island developing States have made progress in the area of tertiary education in recent years. For example, Seychelles has established its own university, and in Mauritius 44 private institutions offered tertiary level local programmes in 2008. Well-known universities include the University of Trinidad and Tobago, the University of the West Indies and the University of the South Pacific. The Department of Economic and Social Affairs and the University Consortium of Small Island States are developing a common platform for virtual training programmes in sustainable development, which is part of a general revitalization of the Small Island Developing States Network. UNESCO action plans on education for sustainable development have been adopted for the Pacific and Caribbean for the period 2008-2014.

110. Initiatives are under way to improve the access to information and communications technology in the area of education. "One laptop per child", a public-private partnership initiative, was implemented in Haiti, Nauru, Niue, Papua New Guinea, Solomon Islands and Vanuatu. The national qualifications authorities of Fiji, Samoa, Tonga and Vanuatu are now included in the Pacific Regional Qualifications Register, which is linked to New Zealand.

Knowledge management, monitoring and evaluation

111. Effective dissemination of knowledge and information is essential for development. Knowledge management built on a modern information and communications technology infrastructure holds the promise of mitigating the effects of limited capacity, isolation and remoteness. However, Internet access remains a constraint. In 2007, Internet penetration was higher than the critical level of 33 per cent in only five small island developing States and was below 10 per cent in 9 of the 23 members of the subgroup of small island developing States[9] for which data were available.

112. Given the size of small island developing States, good quality data for decision-making are scarce compared with larger countries. However, the technical possibilities to monitor environmental change at scales appropriate for small islands have improved greatly. Global data systems are available for spatial and real time data, including satellite and air photo imagery and remotely sensed data. Such systems are used in early warning tools for climate variability and natural hazards. Examples of initiatives include the SOPAC GeoNetwork, the Caribbean Marine Protected Area Management Network and the Pacific Regional Information System.

E-governance initiatives were reported from Antigua and Barbuda, Dominica, Grenada, Maldives, Mauritius and Saint Kitts and Nevis. Mauritius has been a leader among small island developing States in terms of information and communications technology applications.

113. Most of the new systems and knowledge-management processes, however, require specialized expertise. Effective knowledge-sharing also faces cultural and social barriers, including the multicultural and multilingual diversity in many small island developing States.

National and regional governance

114. Good governance is a key component of coping capacities and thus central to reducing the vulnerabilities of small island developing States. World Bank governance indices are based on the responses concerning quality of governance provided by a large number of enterprises, citizens and expert surveys in industrial and developing countries. According to these World Bank indices (on a scale of -2.5 to +2.5, with 0 being the world average), the average index on government effectiveness for the subgroup of small island developing States improved slightly, from -0.22 in 2004 to -0.14 in 2008, as did the index on rule of law, which increased from 0.21 to 0.22. However, the average index on political stability declined from 0.71 in 2004 to 0.57 in 2008. It should be noted that these averages mask large differences among countries.[34]

115. In the past five years, there have been many important advances in terms of regional institutions, especially in the Caribbean and the Pacific, which are detailed in the regional review reports on the five-year review of the Mauritius Strategy. For example, the Pacific Plan adopted by Pacific Island Forum leaders translates the Mauritius Strategy into a regional framework that has effectively guided national and regional policy and institutional developments.

116. The United Nations system has provided a wide range of support for the implementation of the Mauritius Strategy since its adoption in 2005, addressing all 19 thematic areas. There is a relatively high awareness among United Nations and non-United Nations organizations of the importance of issues of concern to small island developing States. While the United Nations has, since 2005, dedicated increased resources and staff to activities related to these States, the resources available arguably remain well below their expectations and are below the level of the resources dedicated to United Nations support for other vulnerable groups of countries.

117. There remains much room for improvement in the coordination of activities undertaken by United Nations and non-United Nations organizations in support of small island developing States. The current coordination mechanism in the United Nations system is the Inter-Agency Consultative Group, an informal network convened at the working level. Participants in the Group comprise 15 organizations of the United Nations system and seven other organizations (see footnote 6). Despite the growing interest in the Group, participation in which has doubled since

[34] Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi, "Governance matters VIII: aggregate and individual governance indicators for 1996-2008", Policy Research Working Paper No. 4978 (Washington, D.C., World Bank, June 2009).

mid-2009, coordination at the project level and in terms of monitoring and evaluation remains highly fragmented and ad hoc.

IV. Issues for consideration

118. The three regional meetings for the five-year review of the Mauritius Strategy provided regional outcome documents and regional review reports, which were based on national assessment reports submitted by Member States. In general, substantial progress has been made in small island developing States in terms of the implementation of the Strategy and the progress made towards the achievement of the Millennium Development Goals but renewed efforts are needed. The regional reports indicate that small island developing States continue to be highly vulnerable to external shocks, a point highlighted in the present report and in others. Indeed, many of the hard-earned gains appear threatened by the adverse impacts of climate change and natural disasters, and the recent global food, fuel and financial crises. Anecdotal evidence also suggests that those impacts have overstretched the already limited coping capacities of small island developing States.

119. In the light of the progress made, the lessons learned and the constraints to the implementation of the Mauritius Strategy highlighted in the present report and at the three regional review meetings, Member States may wish, inter alia, to consider the issues set out below.

(a) Strengthen support for national development planning focused on building resilience to external shocks

120. Strong national development processes, strategies and institutions can help to focus efforts on building resilience to economic, environmental and social shocks. The livelihoods of communities in small island developing States are closely linked to natural resource endowments and ecosystem services, but these States are on the front line of climate change impacts. While small island developing States have demonstrated leadership in building resilience, international support is needed to ensure sustainable financing for protected area networks, green growth and climate change policies. Member States may wish to consider strengthening national data and information systems and the use of energy systems analysis and integrated assessment tools.

(b) Vulnerability-resilience profiling of small island developing States

121. Member States and international organizations may wish to consider more concerted efforts on frameworks to measure economic, environmental and social vulnerabilities, and to apply them in the form of vulnerability-resilience country profiles for monitoring progress in terms of the Mauritius Strategy.

(c) Further focus on key thematic areas

122. The Barbados Programme of Action and the Mauritius Strategy provide a comprehensive overview of the major areas in which action is needed to reduce vulnerabilities and build resilience. Yet, in view of the scarcity of resources for the implementation of the Strategy, Member States may wish to consider a further focus on a few sub-areas and defining measurable goals and targets for these areas in order to monitor progress. Such sub-areas are expected to be country-specific. The

review reports in particular highlight the following: sustainable energy; transport; trade; climate change mitigation and adaptation; marine and coastal resources; fisheries; tourism; and finance.

(d) Support partnership initiatives for the further implementation of the Barbados Programme of Action

123. The reviews agreed that the focus, in terms of the way forward, needed to be on implementation of initiatives that build resilience, with support from the international community through various partnerships. They highlighted the need for strengthened cooperation and suggested building on existing mechanisms, with coordinated roles for regional organizations and United Nations organizations. They also called for strengthening of public-public and public-private partnerships, including South-South cooperation and cooperation among small island developing States. In particular, Member States may wish to consider improving the partnership mechanism of the Commission on Sustainable Development and enhancing partnership initiatives.

(e) Strengthen access to and provision of financial resources for small island developing States

124. The support provided by the international community for small island developing States is to be commended. It has produced tangible development results in many of them. Yet, there is evidence that existing support has increasingly fallen short of the mounting challenges faced by these States, including those brought about by climate change. In view of their small size and a "one size fits all" approach, many small island developing States have even been constrained from making full use of existing support and financing options. In this context, the international community could consider taking decisive action to take full account of the special challenges faced by small island developing States, also in the interest of sustaining their stewardship of global goods, such as the oceans and marine resources. Member States may wish to consider the special needs of small island developing States in the context of the United Nations Framework Convention on Climate Change and the Copenhagen Accord.

(f) Institutionalize special support for small island developing States

125. Since the convening of the United Nations Conference on Environment and Development in 1992, international declarations and resolutions have made references to the special challenges faced by small island developing States on a regular basis. The national, regional and global review reports provide much evidence that underlines the rationale for the special case of small island developing States. Two distinct concerns need to be distinguished: (a) the practical challenges faced by highly vulnerable small island developing States in the context of the least developed country graduation process; and (b) the special challenges faced by middle-income small island developing States in the absence of international support measures commensurate with their high vulnerability.

126. In terms of concern (a), an international review of the effectiveness of existing support systems and processes for poor and vulnerable countries might be considered. Member States may wish to consider calling for a review of the criteria used for the identification of the least developed countries and for the graduation

process in order to ensure equitable consideration of the special challenges faced by small island developing States and other poor and vulnerable countries. Additional transition support measures following major shocks might also be considered.

127. In terms of concern (b), it should be noted that the call for special support measures to address the vulnerabilities of all small island developing States has been prominent in the regional and interregional review meetings. Supporters see a designated category of small island developing States, similar to the list of the least developed countries, as essential for international support measures. While there is no global consensus on this issue, the creation of a category of small island developing States would require that the identification and definition of such a group be based on objective criteria rather than self-selection. Graduation criteria would need to be established, and the support measures defined. Most importantly, equity issues would need to be considered and the implications of creating a formal category of small island developing States would need to be explored. While the majority of the most vulnerable economies in the world are small island developing States, there are also several other countries which are highly vulnerable. The present report and the regional review meetings demonstrate a clear need for instituting support mechanisms which recognize the greater levels of vulnerability not only of the poorest, but also of certain middle-income countries. Thus, Member States may wish to consider requesting a technical study which will explore the various options.